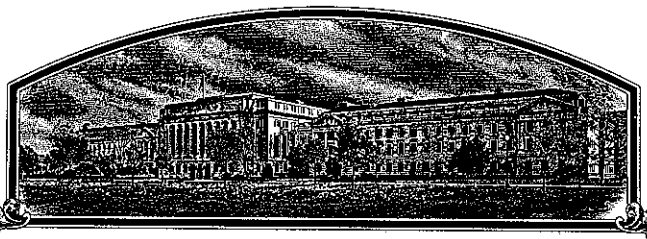

No. 9100238

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Bredemeyer Bros.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS REQUIRED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'WinTex'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 31st *day of* August *in the year of our Lord one thousand nine hundred and* ninety-four.

Attest:

Kenneth B. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Mike Espy
Secretary of Agriculture

FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
Bredemeyer Bros.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
WR-8002

3. VARIETY NAME
WinTex

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*
Box 756
Winters, TX 79567

5. PHONE *(Include area code)*
(915)754-5373

FOR OFFICIAL USE ONLY

PVPO NUMBER
9100238

FILING
Date: Aug. 5 1991
Time: ☐ A.M. ☐ P.M.

FEES RECEIVED
Filing and Examination Fee: $ 2150.00
Date: August 5, 1991
Certificate Fee: $ 250.00
Date: August 2, 1994

6. GENUS AND SPECIES NAME
Triticum Aestivum

7. FAMILY NAME *(Botanical)*
Gramineae

8. CROP KIND NAME *(Common Name)*
Wheat, Common

9. DATE OF DETERMINATION
April 1987

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Partnership

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
–

12. DATE OF INCORPORATION
–

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Randall Conner, Agent
Box 756
Winters, TX 79567
PHONE *(Include area code)*: 915-754-5373

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

a. ☒ Exhibit A, Origin and Breeding History of the Variety.
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety.
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____.
g. ☒ Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States."

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See section 83(a) of the Plant Variety Protection Act.)*
☒ YES *(If "YES," answer items 16 and 17 below)* ☐ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ YES *(If "YES," through* ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____.)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in section 41, and is entitled to protection under the provisions of section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
Randall Conner	Agent	August 1, 1991
Rodrick Bredemeyer	Owner	August 1, 1991

WHEAT

'WinTex'

14A. Exhibit A:

Origin and Breeding History of the Variety

The parentage of WinTex is Russian, a non-registered variety of wheat which is very popular in Texas. It is thought that the late Mr. Ray Pritchett of Plainview, Texas obtained a few kernels of wheat seed while on a tour of the Soviet Union in the 1970's. He subsequently planted and increased the seed at Golden West Seed Company in Clovis, New Mexico, where it showed good grazing and grain yield potential, as well as good milling and baking characteristics. As the seed was increased, a large number of awned heads appeared, probably as contamination from outside sources. This was undesirable for a certifiable variety of wheat and made the task of obtaining pure seed very difficult.

In the early 1980's, Mr. Pritchett in conjunction with New Mexico State University attempted to release the variety as Kiev. Due to the death of Mr. Pritchett, the failure of Golden West Seed Company and Flour Mills, and the lack of success of eliminating the awned heads, the project was discontinued.

In 1986, Farmers Seed and Supply of Winters obtained the remaining amount of Kiev seed stocks from Kelly Green Seeds of Farwell, Texas.

The Bredemeyer Brothers of Winters planted a seed block of 25 acres in the Fall of 1986. They began selections, selective conditioning, and purifying of the seed line in 1987 and have gone through 4 generations of improving the seed quality. The primary selection was for minimal awned types, while maintaining the superior grazing and grain yield characteristics and excellent leaf rust resistance.

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WHEAT

'WinTex'

14B. Exhibit B: Novelty Statement.

'WinTex' is most similar to 'Russian,' a non-registered cultivar of common wheat. 'WinTex' differs from 'Russian' in not having awned variants. 'WinTex' has a flat or not-twisted flag leaf, 'Russian' has a twisted flag leaf. Also, in 'WinTex' the seed cheek is rounded, the seed cheek in 'Russian' is angular.

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
~~LIVESTOCK AND SEED DIVISION~~
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Bredemeyer Bros.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
Box 756
Winters, TX 79567

FOR OFFICIAL USE ONLY
PVPO NUMBER 9100238
VARIETY NAME OR TEMPORARY DESIGNATION
WinTex

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____ [ ] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[2] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[1][4][0] FIRST FLOWERING Depends on date of planting/vernalization [1][5][0] LAST FLOWERING

4. MATURITY (*50% Flowering*):
[0][2] NO. OF DAYS *EARLIER* THAN ..... [2] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[ ][ ] NO. OF DAYS *LATER* THAN ..... [ ] 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (*From soil level to top of head*):
[1][0][2] CM. HIGH
[ ][ ] CM. TALLER THAN ..... [ ]
[1][0] CM. SHORTER THAN ..... [2] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (*See reverse*):
[3] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][4] NO. OF NODES (*Originating from node above ground*)
[2][7] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[1] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____
[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[1][2] MM. LEAF WIDTH (*First leaf below flag leaf*)
[2][5] CM. LEAF LENGTH (*First leaf below flag leaf*):

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Variants: WinTex may contain .1% awned heads and/or .1% red chaff types.

11. HEAD:

[2] Density: 1 = LAX 2 = DENSE

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[2] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[0][9] CM. LENGTH

[1][1] MM. WIDTH

12. GLUMES AT MATURITY:

[3] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)

[3] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[4] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[2] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[1] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[1] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[2] Brush: 1 = NOT COLLARED 2 = COLLARED

[5] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[0][7] MM. LENGTH

[0][3] MM. WIDTH

[4][5] GM. PER 1000 SEEDS

17. SEED CREASE:

[2] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] STEM RUST (Races) _____

[2] LEAF RUST (Races) _____

[0] STRIPE RUST (Races) _____

[ ] LOOSE SMUT

[0] POWDERY MILDEW

[0] BUNT

[ ] OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID (Bydv.)

[1] GREEN BUG

[0] CEREAL LEAF BEETLE

[1] OTHER (Specify) Russian Wheat Aphid

HESSIAN FLY RACES: [ ] GP [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [ ] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Russian	Seed size	Russian
Leaf size	Russian	Seed shape	Russian
Leaf color	Russian	Coleoptile elongation	Russian
Leaf carriage	Russian	Seedling pigmentation	Russian

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

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Exhibit D

WinTex

A New Awnless Hard Red Winter Wheat for Texas

WinTex is a new awnless hard red winter wheat developed by Rodrick Bredemeyer, Malcolm Bredemeyer, and Randall Conner of Winters, Texas. It is expected to be released to the public in the Fall of 1991.

WinTex features three outstanding characteristics which prompt its release. 1. It is awnless, which is a desirable characteristic for wheat graze-out. 2. It exhibits good leaf rust resistance. 3. It has excellent grain and grazing yield potential.

The variety is named for Winters, Texas where the variety was developed and where it has had excellent adaptability.

Breeding

The parentage of WinTex is Russian, a non-registered variety of wheat which is very popular in Texas. It is thought that the late Mr. Ray Pritchett of Plainview, Texas obtained a few kernels of wheat seed while on a tour of the Soviet Union in the 1970's. He subsequently planted and increased the seed at Golden West Seed Company in Clovis, New Mexico, where it showed good grazing and grain yield potential, as well as good milling and baking characteristics. As the seed was increased, a large number of awned heads appeared, probably as contamination from outside sources. This was undesirable for a certifiable variety of wheat and made the task of obtaining pure seed very difficult.

In the early 1980's, Mr. Pritchett in conjunction with New

Mexico State University attempted to release the variety as Kiev. Due to the death of Mr. Pritchett, the failure of Golden West Seed Company and Flour Mills, and the lack of success of eliminating the awned heads, the project was discontinued.

In 1986, Farmers Seed and Supply of Winters obtained the remaining amount of Kiev seed stocks from Kelly Green Seeds of Farwell, Texas.

The Bredemeyer Brothers of Winters planted a seed block of 25 acres in the Fall of 1986. They began selections, selective conditioning, and purifying of the seed line in 1987 and have gone through 4 generations of improving the seed quality. The primary selection was for minimal awned types, while maintaining the superior grazing and grain yield characteristics and excellent leaf rust resistance.

Performance

WinTex has shown excellent grain yields in 1988 and 1989 at Winters, Texas. The yield of WinTex in 1990 in the Runnels County Wheat Variety Trials at Winters was 42.77 bushels per acre, 9% more than Russian (39.18 bushels per acre). The yield of WinTex in 1989 at Winters was 35 bushels per acre. WinTex shows to yield equally well or higher than Russian in all tests.

Test weights in 1989 and 1990 have been 61 pounds per bushel and 63 pounds per bushel, respectively, which is very good. Ratings for leaf rust have shown very good resistance in both 1989 and 1990.

The incidence of awned type heads in the tests has been under 0.5% and it appears that this level can be maintained through the

certified class generation of seed increase.

Maturity

The average heading date of WinTex is about the same as Russian. It is about 5 days later than TAM 101 and about 10 days later than NK Pro 812 at Winters, Texas. WinTex requires substantial vernalization and should not normally be planted after December 20 in most of Texas. It has excellent winterhardiness and a good winter survival rate.

Plant Type

WinTex is an awnless (actually awnletted), normal height, hard red winter wheat. The height is similar to Russian, Caddo, or Triumph 64. The plant has a blue-green color at booting, with a recurved, not twisted, flag leaf. The stem has a waxy bloom present, with internodes being hollow. The heads are apically awnletted, dense, and tapering.

The glumes are long, with wide and square shoulders, and have an acute beak. The kernels are ovate, with rounded cheek and short brush. WinTex contains less than one awned plant in 200 plants.

WinTex is not normally susceptible to lodging. It is prostrate in the juvenile stage of growth. Wintex exhibits a yellow anther at blooming. Wintex is a white chaff wheat.

Disease and Insect Resistance

WinTex has shown excellent leaf rust resistance during its development, especially in 1990. Indications are that WinTex is currently resistant to the prevalent races of leaf rust fungus at

Winters, Texas. There was very little infection of Powdery Mildew in either 1989 or 1990 and no indication of stem rust. No evaluations have been made for other diseases.

WinTex was not tested for insect resistance.

Quality

Samples have been submitted to USDA for classification as to hardness and to the Texas A & M Cereal Crop Quality Lab at College Station for milling and baking characteristics. In comparison to a commercial HRWW flour, WinTex absorbed similar amounts of water, but produced a smaller loaf of bread. The flour protein was slightly higher than the commercial, the mixograph rating is rated fair to good, crumb color is fair, and crumb texture is fair to good. Overall, WinTex had only slightly lower values than commercial flour for physical, milling, and baking properties.

Area of Adaptation

WinTex appears to be adapted to any area which currently produces Russian wheat. Russian is currently produced from the Texas Panhandle and Oklahoma to the Uvalde and Austin areas. It is produced from the Blacklands to Eastern New Mexico.

Source of Seed

Breeders seed will be maintained by Farmers Seed and Supply, P. O. Box 756, Winters, Texas 79567, (915)754-5373. Certified Seed will be available in Fall 1991 from Farmers Seed and Supply. Foundation and Registered Seed will be available only under licensing agreement.

WHEAT

'WinTex'

14E. Exhibit E: Statement of the Basis of Applicant's Ownership

The variety for which Plant Variety Protection is hereby sought was developed by Rodrick and Malcolm Bredemeyer. By agreement with Randall Conner and Farmers Seed and Supply, a Texas Corporation, who are the sole marketing agents for this variety, all rights to the ownership of the variety remain with Rodrick and Malcolm Bredemeyer.

9100238

Additional Attachments to WinTex Application:

1. Texas Department of Agriculture Approval of Variety
2. Phenol Test Results
3. Milling, Mixing, and Baking Evaluations (5 pages)
4. FGIS Classification of the Variety

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9100238

TEXAS DEPARTMENT OF AGRICULTURE

RICK PERRY
Commissioner

July 15, 1991

Mr. Randall Conner
Mr. Rodrick Bredemeyer
Farmers Seed and Supply
P.O. Box 756
Winters, Texas 79567

Dear Sirs:

Your presence at the June 18, 1991 State Seed and Plant Board meeting in support of your request for certification eligibility of WinTex wheat was appreciated. As you are aware, the variety was approved.

If you have any questions, please let us know.

Sincerely,

Charles A. Leamons
Director, Seed Quality

CAL/cbl
Enclosures
cc: Fred Woodward
State Seed & Plant Board

9100238

CERTIFICATE OF SEED ANALYSIS

Farmers Seed & Supply
P.O. Box 756
Winters, Texas 79567

Phenol Test

ARMADILLO SEED LABORATORY, INC.
P. O. Drawer 89, 221 N. Main
Kingfisher, OK 73750
(405) 375-6780
FAX: (405) 375-6784

ISSUED BY

REGISTERED MEMBER, SOCIETY OF COMMERCIAL SEED TECHNOLOGISTS

This certifies that the sample of seed submitted of the lot designated below has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.

Test No. 15476 **Designation (Lot No.)** Breeders Seed **Origin:**

Kind and Variety* of seed: WHEAT: WR 8002
(English and Latin name)

PURE SEED:	%	**GERMINATION (normal sprouts)**	%
	%		%
	%		%
Other crop seeds:	%	**Hard seed:**	%
Inert matter:	%	**Total germination and hard seed:**	%
Weed Seeds:	%	**Date of test:** 12-4-90	

Other Crops: **Weeds:**

Phenol Test Results: 100% Class V Brown-Black (Black) Color Reaction
Tam 105 used as check variety for Phenol class.

Noxious weed seeds for _____ **in** _____ **grams examined.**
(State or Country)

DATE ISSUED 12-4-90

Wayne A Beckwith **R.S.T.**
Authorized signature

**Variety declared by seller. This seed laboratory does not confirm variety designations.*

Wayne A. Beckwith or Karen Rogers
Registered Seed Technologists, Seal No. 044

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TEXAS A&M UNIVERSITY
DEPARTMENT OF SOIL & CROP SCIENCES
COLLEGE STATION, TEXAS 77843-2474

(409) 845-2910
FAX (409) 845-0456

9100238

December 17, 1990

Mr. Randall Conner
Farmer's Seed and Supply, Inc.
108 S. Melwood
Winters, Texas 79567

Dear Mr. Conner:

We have completed milling, mixing, and baking evaluations of your Experimental 8002 and Chisholm wheat samples compared to a commercial flour sample. The Chisholm kernels were definitely softer with greatly reduced protein content (9.6 vs 12.9). It is not clear to me why the large difference in protein content exists unless the samples were grown under different conditions or locations. Thus, the information on quality is difficult to interpret. Basically, the experimental looks like a medium strength variety with some reduction in loaf volume.

In the future, you may want to enter promising material into our TAES elite wheat nursery to secure information for comparison purposes. Dr. David Worrall, Texas Agricultural Experiment Station, Vernon, Texas is the key contact person.

We are happy to work with your company. I am sorry to have to bill you to help us defray our costs. An invoice for $500.00 is enclosed which goes into a designated fund which supports the research program. I regret that we must charge for the analyses but, these costs are significantly less than you could get done elsewhere.

If you have questions, give me or Dr. Serna-Saldivar a call (409) 845-2925.

cc: Dr. D. Worrall
Dr. S. Serna-Saldivar
Dr. T. Miller

Enclosures

RESULTS

Results of the study are sumarized in Table 1. The experimental wheat had much better kernel properties than Chisholm. Chisholm was softer, smaller and with a high percentage of yellow berry kernels. The softer nature of Chisholm was reflected in the milling yield. The experimental wheat yielded more straight grade flour than Chisholm. The resulting flour contained more protein and absorbed more water during baking. The mixograph was rated as fair to good (see enclosed mixograph curves).

The experimental wheat flour absorbed similar amounts of water than the commercial HRWW flour and absorbed about 2% more water than Chisholm. Due to its higher water absorption, the experimental wheat produced a heavier loaf of bread than Chisholm. However, the experimental flour produced a smaller loaf of bread than the comercial flour. This bread volume value is considered below average. Chisholm produced the smallest bread volume which is considered poor for a hard red winter wheat. The low bread volume might be the result of the low flour protein content. Chisholm had lower density and crumb texture scores than the experimental and commercial flours. Its texture was rated as too close.

In conclusion, the experimental wheat had better physical, milling and baking properties than Chisholm but slightly lower values than the commerical wheat flour. The large difference in protein content might explain the differences in milling and baking performance.

TABLE 1. RHEOLOGICAL, MILLING AND BAKING PROPERTIES[a]

	CHISHOLM	EXP. 8002	COMMERCIAL
Wheat Moist., %	8.5	10.3	---
Tempering Moist., %	13.5	13.5	---
Flour Yield[b], %	67.3	70.3	---
Flour Moist., %	12.7	13.0	10.7
Flour Protein[c], %	9.6	12.9	11.9
Mixograph			
Water Absorption, %	59.6	63.0	61.9
Peak, min-sec	5' 30"	4' 45"	5' 15"
Rating	F	F-G	F-G
Baking[d]			
Water Absorption, %	59.6	61.6	62.0
Mix Time, min-sec	3' 45"	4' 15"	3' 50"
Dough Properties	F-G	F-G	G
Bread Weight, g	139.8	143.0	141.3
Bread Volume, cc	795	845	910
Bread Density, g/cc	0.18	0.17	0.16
Crumb Color	F	F	F-G
Crumb Texture	F	F-G	G

[a] Subjective evaluations were based on P = poor: Q = questionable; F = fair; and G = good.

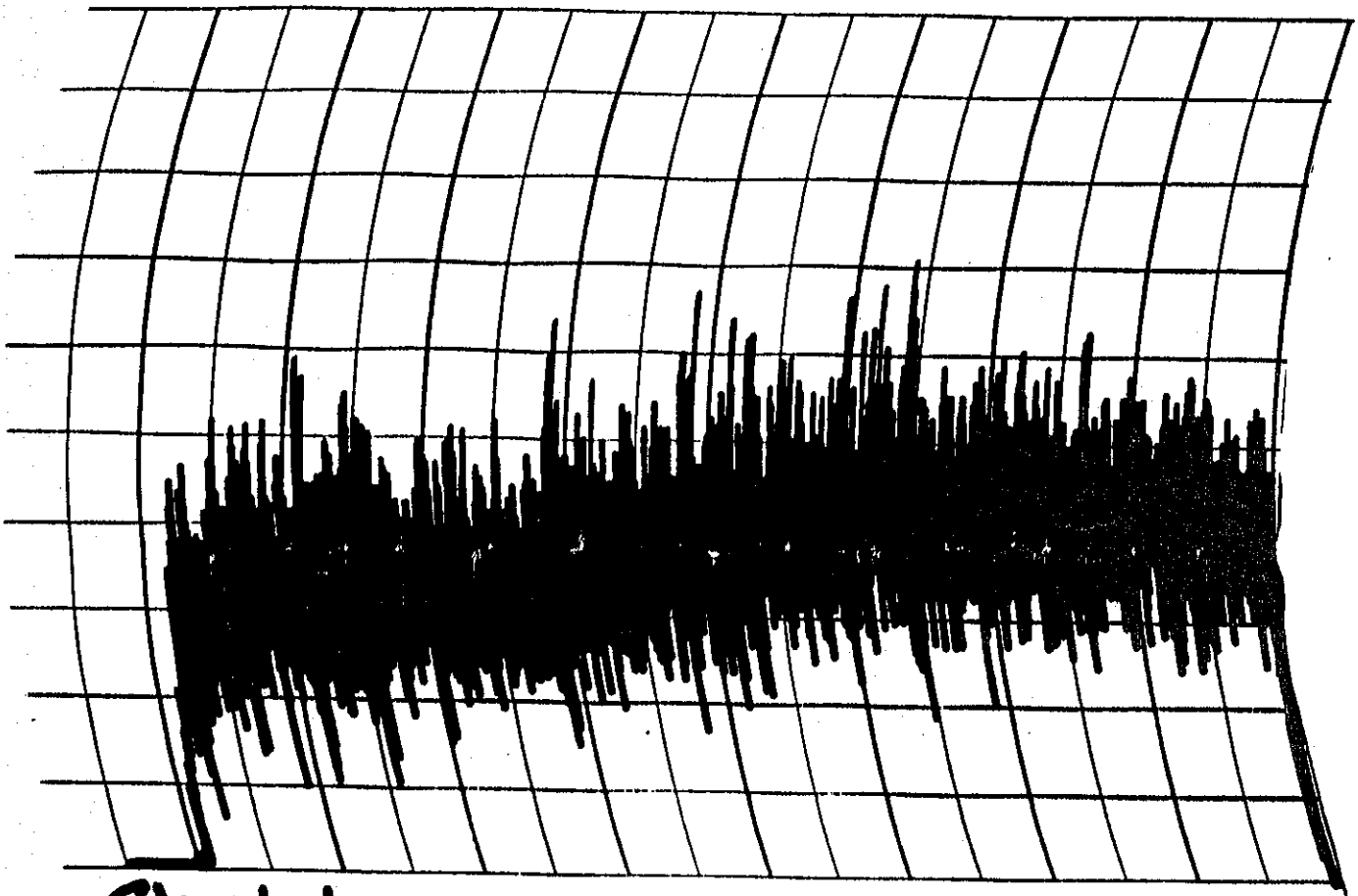
[b] Micromilling procedure used by the USDA Grain Marketing Laboratory, Manhattan, KS

[c] Determined via Near Infrared Analysis.

[d] Microbaking straight dough procedure used by the USDA Grain Marketing Laboratory, Manhattan, KS.

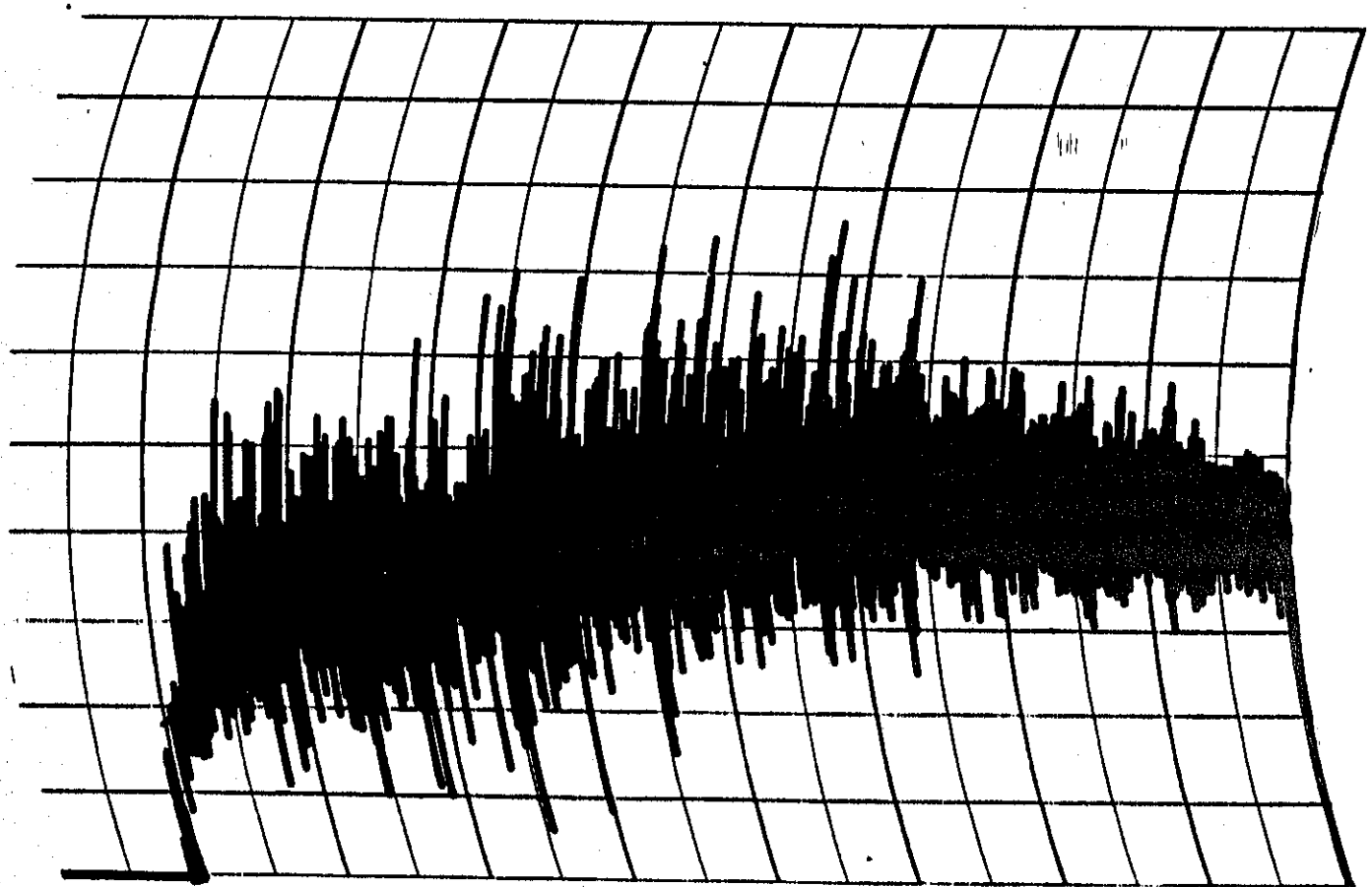
Printed in U.S.A.

Chart 1



NATIONAL MANUFACTURING A Divisioin of TMCO, Inc. 544 "J" S

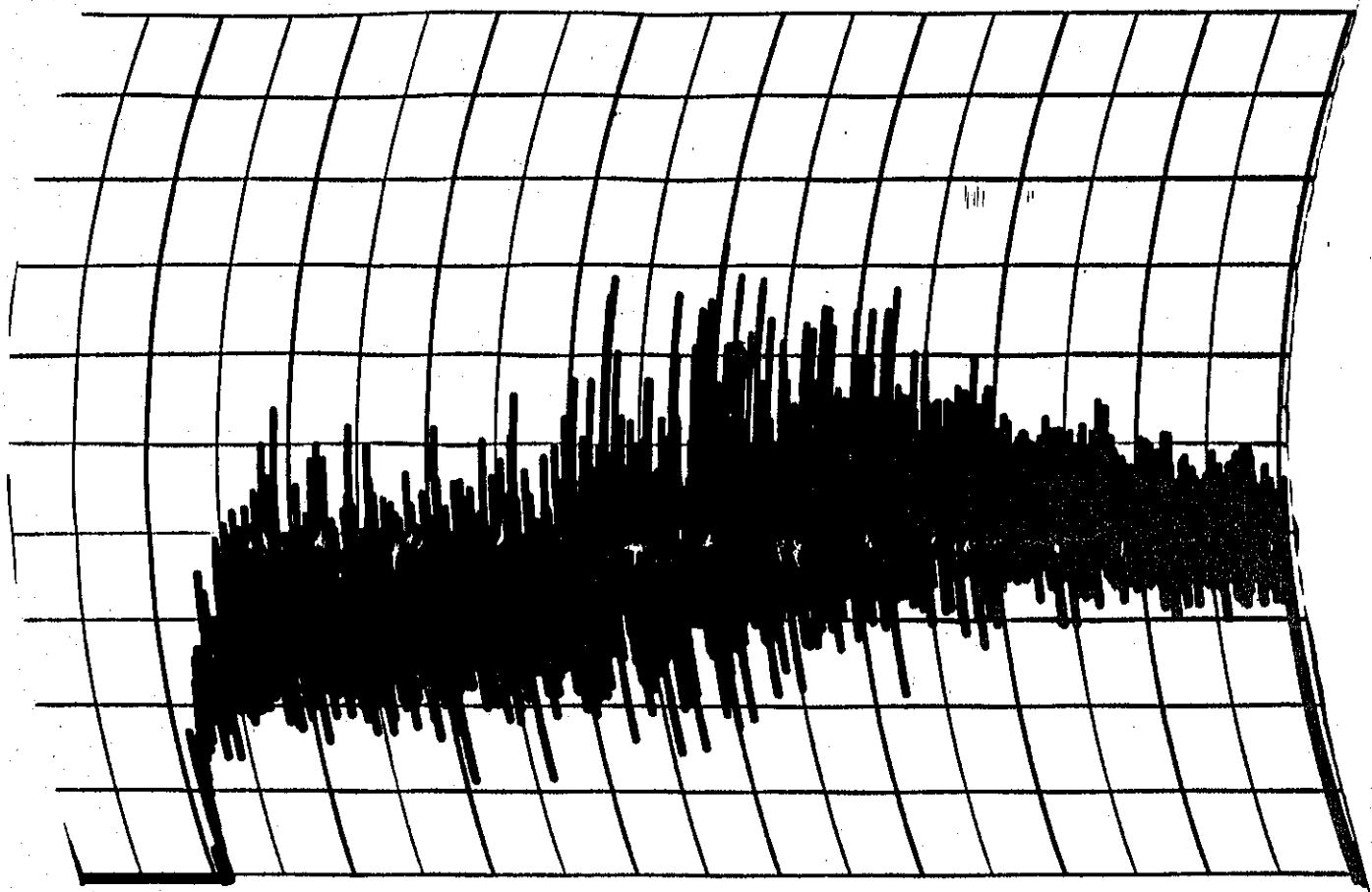
Chisholm
H_2O Abs = 59.6%



treet Lincoln, Nebraska 68508 NATIONAL MANUFACTURI

EXP. WHEAT 8002 H_2O Abs = 63.0%

No. NMC 2310 Printed in U.S.A.



reet Lincoln, Nebraska 68508 NATIONAL MANUFACTURI

COMMERCIAL Hgo Abs = 5' 61.9%

9100238

USDA, FGIS, QARD
Board of Appeals and Review
P. O. Box 20285
Kansas City, MO 64195

May 1, 1991

TO: Hesser Westbrook, Manager
Plainview Field Office

FROM: Eurvin Williams, Chairman
Board of Appeals and Review E Williams

SUBJECT: Classification of the Variety Wintex (WR 8002)

Thank you for the sample(s) you submitted representing the variety Wintex (WR 8002). Based on a review of the above mentioned sample(s) kernel and varietal characteristics, the Board of Appeals and Review (BAR) has determined the variety does meet the classing requirements for Hard Red Winter wheat. 1/

Kernel characteristics include the color, shape, length of kernel and the shape of the germ, crease and brush.

Sample Evaluation:

Uniform in Characteristics	[XX]	Yes	[ ]	No
Favors Another Class	[ ]	Yes	[XX]	No
If yes, what class? _____				
Could Cause Marketing Problems	[ ]	Yes	[XX]	No

Other Comments: Experimental # WR 8002 variety exhibits sturdy type characteristics. Has parallel sides with pinched back. Germ size larger than traditional HRW, but still has a high germ angle.

Weight of Sample Submitted: 67 grams

1/ The above decision applies only to the quantity of wheat submitted for our review and does not apply to any other identified lots. The effect of environment on morphological characteristics may be significant and necessitate reevaluation.

cc: John W. Marshall